

University of Pennsylvania
School of Social Policy & Practice
MSSP 710
Democratizing Data: Analytics for Social Change

Fall 2017

Professor:	section: 001
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I. Course Description

With the advent of digital technologies and the increasing power of computational analytics, the proliferation and ubiquity of data production has increased at exponential rates enabling new possibilities for social analysis. The footprints of social life are more and more digitalized and available for examination. But, this “data revolution”, as characterized by Rob Kitchin, has also raised many questions socially, ethically, and philosophically; challenging old paradigms of the philosophy of science while opening up new possibilities for transparency and enabling social change. This course will examine the emergence of democratizing data -- the movement to make government and other data more widely or publicly available and its potential enabling for democratic possibilities. The types of data being made available, through various analytic systems, and the ways in which their accessibility and inaccessibility is contributing to reconfigured power relations, will be described. The paradigmatic tensions and shifts that have emerged in the debates on “Big Data”, such as deductive versus inductive reasoning and the challenges posed to statistical sampling theory, will be interrogated. Originally developed and employed in military and corporate research and development, the appropriation of machine learning and predictive analytic algorithms for social analysis and policy practices will be critically examined. Issues related to the ethical and legal use of administrative data, particularly data related to patient, client, student and taxpayer information will be considered, as well as from internet-based sources including social media. Methods for web-scraping of data, analysis of web traffic data, and the use of social networking data in the modeling of social phenomena and public opinion will be examined. These topics will be discussed in the context of health, education, and social policy – or, what is now being characterized as algorithmic governance – as well as their implications for questions pertaining to race, gender, class, sexuality, dis/abilities, age and youth culture. The central theme of the course will be to critically examine the potential ways and extent that the movement toward democratizing data may have for social change and the methods necessary for participating in that movement .

II. Educational and Learning Objectives

By the end of “Democratizing Data: Analytics for Social Change” students are expected to demonstrate:

1. a critical understanding of what “Big Data”, open data, and administrative data are, their promises, and their challenges;
2. a critical understanding of the extent to which data is being democratized and in what ways;
3. competence in the various ways digital technology and data are and can be brought to bear for social policy research and evaluation, governmentality, the design and planning of urban space, and organizations;
4. knowledge of the various data analytic methods and the ways in which they are being used for social policy
5. a critical understanding of the ways in which digital technology and data analytics are discursively shaping bodies and sociality and the possibilities for social change.

III. Course requirements:

Expectations

Classroom learning is a fundamental component of your professional education. Students are therefore expected to attend each class, arrive to class on time, and be in attendance for the full class. In the event that you are unable to attend class for any reason, you must notify the instructor in advance and learn how you are to make up the content you missed. Excessive absenteeism (i.e., missing more than two classes) is considered a serious problem the instructor will handle by meeting with the student and determining whether the student's educational adviser should be notified. Excessive absenteeism could result in course failure.

Students are expected to: (A) participate substantively in class discussions; (B) read on a weekly basis, participate in online discussions of the reading material, and come to class prepared to apply and discuss the reading assignments; (C) submit assignments by the due date and in accordance with the specified format.

Grades will be based on three major assignments. The first two assignments will each be worth 30% of your course grade and the final assignment will be worth 40% of your overall course grade.

Assignments

Students will be responsible for three assignments during the semester. Each assignment is discussed in more detail on page 8 of this syllabus. Specific instructions for completing each assignment will be provided during the semester.

Format

If a scholarly paper is done for assignment 3 then the **in-text citations must follow APA style guidelines**, with the specific source including authors' last names and year of publication, regardless of whether you are paraphrasing or using specific quotes. Direct quotes must have the specific source as above but with page number(s). **A list of references cited or consulted must be included at the end of each paper in proper APA bibliographic form.** Footnotes may be used where appropriate to further explicate a concept or issue. **American Sociological Association style may be used, but this must be consistent throughout the assignment.**

You should keep a copy of each paper submitted. The instructor will gladly answer any questions regarding format, citing or organization. Papers written for other classes may not be submitted for written assignments in this course. Direct substitution of papers between courses may result in a failing grade for that assignment.

Plagiarism

Students are expected to conduct themselves consistent with the University of Pennsylvania's Code of Academic Integrity, which presents standards regarding plagiarism, multiple submissions and other actions. Students are expected to be familiar with the Code, which can be found at <http://www.vpul.upenn.edu/osl/acadint.html>

Evaluation

Assignments will be evaluated based on the following criteria:

1. participation in the weekly online discussion of the reading material;
2. engagement of the readings in all assignments;
3. quality of presentations and the content of the arguments;
4. demonstrates both a critical understanding and ability to make critical interventions into analyzing digital data, technology, and social policy.

Grading Policies

The final course grade is based on the student's performance on all assignments. Students whose performance is minimal or failing at midterm will be notified in writing. Students will only be given completion credit for the first three assignments and not a grade. This means that these assignments must be completed with satisfactory approval from the instructor or the instructor may ask for the assignment to be redone given the feedback provided by the instructor.

Readings

It is expected that students will read required class assignments from the recommended texts and/or articles, and from relevant materials of their own choosing.

Required Readings

Galloway, Alexander. 2004. *Protocol: How control exists after decentralization*. Cambridge MA: MIT Press.

Halpern, Orit. 2014. *Beautiful Data: A History of Vision and Reason since 1945*. Durham: Duke University Press.

Kitchin, Rob. 2014. *The Data Revolution: Big Data, Open Data, Data Infrastructures & Their Consequences*. Thousand Oaks: Sage.

Magnet, Shoshana Amielle. *When Biometrics Fail: Gender, Race, and the Technology of Identity*. Durham NC: Duke University Press.

Manovich, Lev. 2013. *Software Takes Command*. New York: Bloomsbury.

Canvas: Additional readings will be posted on-line via Canvas at: <http://upenn.instructure.com>

Recommended:

Ian Foster, Rayid Ghani, Ron S. Jarmin, Frauke Kreuter, Julia Lane. 2016. *Big Data and Social Science: A Practical Guide to Methods and Tools*. Chapman & Hall/CRC Press.

Control Societies Speaker Series: Technocratic Forces and Ontologies of Difference
(<http://www.criticalpolicystudies.com/speaker-series>)

TOPICS AND READING LIST BY WEEK

Week 1: August 29

Course Introduction. View documentary “The Human Face of Big Data”.

Part I. On Democracy, Hegemony, & Enumeration

Week 2: September 5

Reading:

Iris Marion Young. *Inclusion and Democracy*.
Chapter 1: Democracy and Justice

Laclau & Mouffe, *Hegemony and Socialist Strategy*.
Chapter 1: Hegemony: The Genealogy of a Concept
Chapter 4: Hegemony: Towards a Radical Democratic Politics

Recommended:

Mark Stoddart “Ideology, Hegemony, Discourse: A Critical Review of Theories of Knowledge and Power” *Social Thought & Research* 28, 191-225.

Week 3: September 12

Reading:

Michel Foucault. *Discipline and Punish*.
Part III, Chapter 1: Docile Bodies
Part III, Chapter 2: The means of correct training
(Recommended: Part III, Chapter 3: Panopticism)

Theodore Porter, *Trust in Numbers*.

Chapter 2: How social numbers are made valid
Chapter 4: The political philosophy of quantification

Gilles Deleuze "Postscript on the Societies of Control"

Part II. What is "Big Data" and Why does it matter for Social Policy?

Week 4: September 19

Readings:

Ian Foster, Rayid Ghani, Ron S. Jarmin, Frauke Kreuter, Julia Lane. 2016. *Big Data and Social Science: A Practical Guide to Methods and Tools*. Chapman & Hall/CRC Press.

Chapter 1: Introduction

Chapter 4: Databases

Chapter 6: Machine Learning

Week 5: September 26

Readings:

Kitchin, Rob. 2014. *The Data Revolution: Big Data, Open Data, Data Infrastructures & Their Consequences*. Thousand Oaks: Sage.

October 2nd Control Societies Speaker Series: Alexander Galloway

Week 6: October 3

Readings:

boyd, danah and Kate Crawford. (2012). "Critical Questions for Big Data: Provocations for a Cultural, Technological, and Scholarly Phenomenon." *Information, Communication, & Society* 15:5, p. 662-679.

Manovich, Lev. 2011. "Trending: The Promises and the Challenges of Big Social Data."

Ruppert, Evelyn. 2015. "Who owns Big Data?"

Anderson, Chris. 2008. "The End of Theory: The Data Deluge Makes the Scientific Method Obsolete."

Week 7: October 10

Readings:

Dennis P. Culhane, John Fantuzzo, Heather L. Rouse, Vicky Tam, and Jonathan Lukens. 2010. "Connecting the Dots: The Promise of Integrated Data Systems for Policy Analysis and Systems Reform" *Intelligence for Social Policy*. University of Pennsylvania.

Stiles, Paul G., and Boothroyd, R. G. (2011). *Ethical Use of Administrative Data for Research Purposes*. Actionable Intelligence for Social Policy (AISP), University of Pennsylvania.

Rothbard, Aileen (2013). *Quality Issues in the Use of Administrative Data Records*. Actionable Intelligence for Social Policy, University of Pennsylvania.

Part III. Software, Cybernetics, Digital Ontologies, & Governmentality

Week 8: October 17

Reading:

Manovich, Lev. 2013. *Software Takes Command*. New York: Bloomsbury.

October 23rd Control Societies Speaker Series: Shannon Mattern

Week 9: October 24

Reading:

Halpern, Orit. 2014. *Beautiful Data: A History of Vision and Reason since 1945*. Durham: Duke University Press.

Recommended:

Goldsmith, Stephen, and Crawford, Susan. 2014. *The Responsive City: Engaging Communities Through Data-Smart Governance*. San Francisco: Jossey-Bass.

Week 10: October 31

Reading:

Galloway, Alexander. 2004. *Protocol: How control exists after decentralization*. Cambridge MA: MIT Press.

November 6th Control Societies Speaker Series: Finn Brunton

Part IV. Data, Governmentality, & Computational Practices

Week 11: November 7

Reading:

de Freitas, E., and Dixon-Román, E. 2017. The computational turn in education research: Critical and creative perspectives on the digital data deluge. *Research in Education* 98(1): 3-13.

Ben Williamson. 2014. "Smart schools in sentient cities." DMLcentral.net

Ben Williamson. 2017. "Learning in the 'platform society': Disassembling an educational data assemblage." *Research in Education* 98(1): 59-82.

Sam Sellar and Greg Thompson. 2016. "The Becoming-Statistic: Information Ontologies and Computerized Adaptive Testing in Education." *Cultural Studies ↔ Critical Methodologies*.

Week 12: November 14

Reading:

Matthew Conlen, Reuben Fischer-Baum, and Andy Rossback. "Should Prison Sentences Be Based On Crimes That Haven't Been Committed Yet?"

Ruppert, Evelyn. 2013. Not Just Another Database: The Transactions that Enact Young Offenders. *Computational Culture*, pp. 1-13.

Berk, R., Sorensen, S., and Barnes, G.. 2015. Forecasting Domestic Violence: A Machine Learning Approach to Help Inform Arraignment Decisions.

Dixon-Román, E., Nyame-Mensah, Ama, and Russell, Allison. Algorithmic Legal Reasoning as Racializing Assemblages.

November 21 No Class

Week 13: November 28

Reading:

Shoshana Amielle Magnet. *When Biometrics Fail: Gender, Race, and the Technology of Identity*. Durham NC: Duke University Press.

Part V. Rethinking the Quantitative in Computational Culture

Week 14: December 5

Assignment 3 Due

Reading:

Patricia Ticineto Clough. 2009. "The New Empiricism: Affect and Sociological Method." *European Journal of Social Theory*.

Elizabeth de Freitas, Ezekiel Dixon-Román, and Patti Lather. 2016. "Alternative Ontologies of Number: Rethinking the Quantitative in Computational Culture." *Cultural Studies ↔ Critical Methodologies*.

Elizabeth de Freitas. 2016. "Calculating Matter and Recombinant Subjects: The Infinitesimal and the Fractal Fold." *Cultural Studies ↔ Critical Methodologies*.

Ezekiel Dixon-Román. 2016. "Diffractive Possibilities: Cultural Studies and Quantification." *Transforming Anthropology* 24(2).

**Assignments 1:
Weekly Reading Discussion (30 points)**

Each student is required to participate in the online discussion of the weekly readings. This could be by way of questions, comments, quotes, inspirations, wrestles, or even putting the reading(s) in conversation with current events. While everyone is able to respond/comment to any discussion entry it is definitely expected that students will maintain collegial decorum in respecting everyone's contributions. It is the purpose of these online reading discussions to not just begin digital conversations on the readings but to hopefully carry these digital discourses into the classroom. Weekly reading discussion participation is expected by 9pm the night prior to class.

**Assignment 2:
Data, Technology, & Social Policy Presentation (30 points)**

Each student will be asked to pick and present on a topic/question pertaining to data, technology, and social policy. These presentations are to be outlined arguments that will become assignment 3. The goal of the presentation is for each student to receive feedback from classmates on their presentation topic and substantive arguments. The presentations should be no more than 10 minutes in length. Due date: When Scheduled.

**Assignment 3:
Data, Technology, & Social Policy Blog, Vlog, Op-Ed, Podcast, or Scholarly Paper
(40 points)**

Following assignment 2, students will be asked to write or do a blog, vlog, op-ed, podcast, or scholarly paper on the topic presented on in assignment 2. Students should incorporate the feedback from classmates into this product. It is encouraged that students use this assignment productively. Thus, if a blog or vlog is produced students are strongly encouraged to upload/submit them to an online source. If the student is doing an op-ed then they are strongly encouraged to submit to any source of print or online news media. If students are producing a scholarly paper it is hoped that this will serve the function of writing a thesis or dissertation chapter, a journal article, or as a writing sample for applications. Previous year's assignments have resulted in publication in venues such as Fortune Magazine, Annenberg's 360 Podcast, & the journal *Equity & Excellence in Education*. Due date: December 6th.